

# *State of New Jersey*

## **Department of Environmental Protection Air Quality Permitting**

### **General Permit (GP-017)**

#### **For**

### **Boiler(s) and/or Heater(s) Each Less Than 5 MMBTU/hr**

This General Permit allows for the construction, installation, reconstruction, modification and operation of:

- ◆ A single boiler and/or heater with a maximum rated heat input to the burning chamber of less than 5 million BTU/hr;

OR

- ◆ Multiple boilers and/or heaters each with a maximum rated heat input to the burning chamber of less than 5 million BTU/hr.

The potential-to-emit (PTE) for the equipment covered under this General Permit shall be established based on the General Permit Option number selected by the Permittee on the Registration Form.

**Each facility may possess only one GP-017 at any time. If a facility wants to add a new source, replace or make changes to an existing source that's already registered under GP-017, then a new General Permit registration is required. This new General Permit registration will supersede the existing General Permit.**

This General Permit is applicable to boiler(s) and/or heater(s) burning only the following commercial fuels: Natural Gas, No. 2 Fuel Oil\*, Propane and/or Kerosene.

**\*Note: No. 2 fuel oil can be a blend of up to 5% by volume bioadditives.**

## **I. DEFINITIONS**

The terms used in this General Permit shall have the meanings given to them in N.J.A.C. 7:27 et seq. or as listed below:

**“Boiler”** means fuel burning equipment used to produce hot water or steam, with a maximum rated heat input to the burning chamber of less than 5 MMBTU/hr.

**Direct-fired process heater"** means any process heater in which the combustion gases mix with and exhaust to the atmosphere from the same stack(s), vent(s), etc. with gases originating with the process or material being processed.

**“Fuel Totalizer”** means a dedicated measuring and/or monitoring device that totalizes, or sums up, the amount of fuel consumed in a time period. Note: Other combustion sources (including insignificant sources) may be included on a fuel totalizer, but will count towards the amount of fuel consumed and/or any fuel limits a facility may have.

**“Heater”** means a space heater and/or indirect fired process heater with a maximum rated heat input to the burning chamber of less than 5 MMBTU/hr.

**Indirect-fired process heater"** means any process heater in which the combustion gases is not mixed with and exhaust to the atmosphere from the same stack(s), vent(s), etc. with gases originating with the process or material being processed.

**“Insignificant Source”** means any equipment or source operation that does not need a permit and certificate under N.J.A.C. 7:27-8.2.

**“Internal combustion engine”** means either a reciprocating engine or a combustion turbine in which power, produced by heat and/or pressure from combustion is converted to mechanical work.

**“MMBTU/hr”** means a unit of heat input rate shown as millions of British Thermal Units per hour.

**“Maximum Rated Heat Input”** means the maximum steady-state fuel firing rate of the burner, measured in BTU per hour of gross heat input, as determined by the manufacturer’s design rating of the burner ( the fuel – burning device. )

**“Space heater”** means a heating appliance used for warming the air of a designated area.

## **II. AUTHORITY**

This General Permit is issued under the authority of N.J.S.A. 26:2C-9.2. This General Permit shall allow for inspections and evaluations to assure conformance with all provisions of N.J.A.C. 7:27 et seq. An opportunity for public comment was provided on September 2, 2008.

## **III. APPLICABILITY**

This General Permit allows for the construction, installation, reconstruction, modification and operation of:

- ◆ A single boiler and/or heater with a maximum rated heat input to the burning chamber of less than 5 MMBTU/hr;

OR

- ◆ Multiple boilers and/or heaters each with a maximum rated heat input to the burning chamber of less than 5 MMBTU/hr.

The potential-to-emit (PTE) for the equipment covered under this General Permit shall be established based on the General Permit Option number selected by the Permittee on the Registration Form.

**Each facility may possess only one GP-017 at any time. If a facility wants to add a new source, replace or make changes to an existing source that's already registered under GP-017, then a new General Permit registration is required. This new General Permit registration will supersede the existing General Permit.**

This General Permit is applicable to boiler(s) and/or heater(s) burning only the following commercial fuels: Natural Gas, No. 2 Fuel Oil\*, Propane and/or Kerosene.

## **IV. EXCLUSIONS**

This General Permit cannot be used to register the following equipment:

1. A boiler or heater whose maximum rated heat input is 5 MMBTU/hr or more;
2. Emergency generators, fire pumps or any other internal combustion engine;
3. A boiler or heater burning fuel other than Natural Gas, No. 2 Fuel Oil\*, Propane and/or Kerosene;
4. Direct-fired process heaters

**\*Note: No. 2 fuel oil can be a blend of up to 5% by volume bioadditives.**

## V. EQUIPMENT SPECIFICATIONS

The Permittee shall retain on site the following record for each boiler or heater:

The maximum rated heat input to the burning chambers of each boiler or heater, measured in millions of BTU per hour, per written manufacturer's specifications or the manufacturer's nameplate on the equipment.

## VI. POTENTIAL -TO - EMIT (PTE) OPTIONS

When registering for this General Permit, the Permittee can select from only one of the following options. Option A does not have a fuel limit. For options B and C, fuel usage limits do apply.

### Option A: Size Limit

The annual PTE is based on the total combined heat input rates for all boilers and heaters registered in this General Permit. The total combined maximum heat input rates must be less than 30 million BTU/hr. Boilers and/or heaters registered under this option may burn **Natural Gas, No. 2 Fuel Oil\*, Propane and/or Kerosene**. A fuel limit is not required when registering under this option.

### Option B: Gaseous Fuel Limit

The annual PTE is based on the maximum allowable gaseous fuel limit for each 12 consecutive month period, based on a rolling 1-month basis. The maximum annual fuel limit depends on the General Permit number selected by the Permittee and cannot exceed 400 million cubic feet. Boilers and/or heaters registered under this option may burn **Natural Gas and/or Propane**. A fuel totalizer(s) is required when registering under this option.

### Option C: Liquid Fuel Limit

The annual PTE is based on the maximum allowable liquid fuel limit for each 12 consecutive month period, based on a rolling 1-month basis. The maximum annual fuel limit depends on the General Permit number selected by the Permittee and cannot exceed 2 million gallons. Boilers and/or heaters registered under this option may burn **No. 2 Fuel Oil\* and/or Kerosene**. A fuel totalizer(s) is required when registering under this option.

**\*Note: No. 2 fuel oil can be a blend of up to 5% by volume bioadditives.**

## OPTION A (SIZE LIMIT)

POTENTIALS TO EMIT (IN TONS PER YEAR) ARE ESTABLISHED BY SELECTING  
THE **TOTAL COMBINED** MAXIMUM RATED HEAT INPUT (MMBTU/HR) FOR ALL BOILER(S) AND / OR  
HEATER(S) BURNING ANY OF THE FOLLOWING FUELS:  
NATURAL GAS, NO. 2 FUEL OIL\*, PROPANE, AND/OR KEROSENE

General Permit Number	Total Combined Heat Input of All Boiler(s) and/or Heater(s) (MMBTU/hr)		Air Contaminant Category POTENTIAL TO EMIT (tons per year)				
	Greater Than	Less Than or Equal	Total Suspended Particulates (TSP)	Sulfur Dioxide (SO <sub>2</sub> )	Oxides of Nitrogen (NO <sub>x</sub> )	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)
BH17-A1	1	5	0.54	4.61	3.24	1.80	0.12
BH17-A2	5	10	1.07	9.21	6.49	3.61	0.24
BH17-A3	10	15	1.61	13.82	9.73	5.41	0.35
BH17-A4	15	20	2.14	18.43	12.98	7.21	0.47
BH17-A5	20	25	2.68	23.04	16.22	9.02	0.59
BH17-A6	25	30	3.21	27.64	19.47	10.82	0.71

## OPTION B (GASEOUS FUEL LIMIT)

POTENTIALS TO EMIT (IN TONS PER YEAR) ARE ESTABLISHED BY SELECTING  
THE **TOTAL FUEL LIMIT** FOR ALL BOILER(S) AND / OR HEATER(S)  
BURNING ANY OF THE FOLLOWING FUELS:  
NATURAL GAS AND / OR PROPANE

General Permit Number	Total Fuel Limit (maximum standard cubic feet/year)	Air Contaminant Category POTENTIAL TO EMIT (tons per year)				
		Total Suspended Particulates (TSP)	Sulfur Dioxide (SO <sub>2</sub> )	Oxides of Nitrogen (NO <sub>x</sub> )	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)
BH17-B1	25,000,000	0.10	0.01	1.25	1.05	0.07
BH17-B2	50,000,000	0.19	0.02	2.50	2.10	0.14
BH17-B3	100,000,000	0.38	0.03	5.00	4.20	0.28
BH17-B4	200,000,000	0.76	0.06	10.00	8.40	0.55
BH17-B5	300,000,000	1.14	0.09	15.00	12.60	0.83
BH17-B6	400,000,000	1.52	0.12	20.00	16.80	1.10

In order to determine compliance with the total gaseous fuel limit, any Permittee that combusts propane must convert gallons propane into scf propane, using the following formula: annual volume of propane burned (in gallons) multiplied by the factor 37.0 = equivalent volume propane (in standard cubic feet).

**\*Note: No. 2 fuel oil can be a blend of up to 5% by volume bioadditives.**

## OPTION C (LIQUID FUEL LIMIT)

POTENTIALS TO EMIT (IN TONS PER YEAR) ARE ESTABLISHED BY SELECTING  
THE **TOTAL FUEL LIMIT** FOR ALL BOILER(S) AND / OR HEATER (S)  
BURNING ANY OF THE FOLLOWING FUELS:  
NO. 2 FUEL OIL\* AND/OR KEROSENE

General Permit Number	Total Fuel Limit (maximum gallons/year)	Air Contaminant Category POTENTIAL TO EMIT (tons per year)				
		Total Suspended Particulates (TSP)	Sulfur Dioxide (SO <sub>2</sub> )	Oxides of Nitrogen (NO <sub>x</sub> )	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)
BH17-C1	100,000	0.17	1.42	1.00	0.25	0.02
BH17-C2	500,000	0.83	7.10	5.00	1.25	0.09
BH17-C3	1,000,000	1.65	14.20	10.00	2.50	0.17
BH17-C4	1,500,000	2.48	21.30	15.00	3.75	0.26
BH17-C5	1,750,000	2.89	24.85	17.50	4.38	0.30
BH17-C6	2,000,000	3.30	28.40	20.00	5.00	0.34

**NOTE:** Annual emissions listed in the Options Table above were calculated using factors from USEPA AP-42, *Fifth Edition, Volume 1, Chapter 1*.

### VII. **SUBMITTAL / CONTACT INFORMATION:**

For assistance or contact information please go to one of the following resources:

1. Air Compliance and Enforcement at:  
<http://www.nj.gov/dep/enforcement/air.html>
2. Small Business Assistance Program at:  
<http://www.nj.gov/dep/opppc/small.html>.
3. Bureau of Preconstruction Permits at:  
<http://www.state.nj.us/dep/aqpp/>

**\*Note: No. 2 fuel oil can be a blend of up to 5% by volume bioadditives.**

## FACILITY SPECIFIC REQUIREMENTS

Item No.	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
1.	In addition to this Compliance Plan, all conditions contained in the document "General Procedures for General Permits" shall also be subject to enforcement.  [N.J.A.C 7:27-8.13(h)]	None	None	None
2.	The Permittee shall ensure combustion equipment included in this General Permit is easily identifiable by clear and conspicuous labeling, including manufacturer name, model number, serial number, and burner maximum rated heat input.  [N.J.A.C. 7:27-8.13(a)]	None	None	None
3.	The Permittee shall not use the equipment in a manner which will cause visible emissions exclusive of visible condensed water vapor, except for a period no more than 3 minutes in any consecutive 30-minute period.  [N.J.A.C 7:27-3.2]	None	None	If visible emissions are observed, refer to operator manual for corrective action. If measures fail to correct visible emissions within 24 hours of observation, the Permittee shall immediately report the incident to the Department by calling the Environmental Action Hotline at (877) 927-6337.  [N.J.A.C. 7:27-8.13(d)]

## FACILITY SPECIFIC REQUIREMENTS

Item No.	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
4.	<p>This equipment shall not cause any air contaminant, including an air contaminant detectable by the sense of smell, to be present in the outdoor atmosphere in such quantity and duration which is, or tends to be, injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, except in areas over which the owner or operator has exclusive use or occupancy. [N.J.A.C 7:27-5]</p>	None	None	<p>Any operation of the equipment which may cause a release of air contaminants in a quantity or concentration which poses a potential threat to public health, welfare, or the environment or which might reasonably result in citizen complaints shall be reported by the Permittee as required by the Air Pollution Control Act. The Permittee shall immediately notify the Department of any non-compliance by calling the Environmental Action Hotline at (877) 927-6337. [N.J.S.A 26:2C-19(e)]</p>
5.	<p>Each facility may possess only one GP-017 at any time.  [N.J.A.C. 7:27-8.13(a)]</p>	None	None	None



## FACILITY SPECIFIC REQUIREMENTS

Item No.	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
6.	<p>The maximum allowable sulfur content in No. 2 fuel oil* and kerosene shall be less than or equal to 0.20 percent by weight .</p> <p><b>*Note: No. 2 fuel oil can be a blend of up to 5% by volume bioadditives.</b></p> <p>[N.J.A.C. 7:27-8.13(a)]</p>	<p>For each fuel oil delivery received, the Permittee shall review written documentation of the delivery to ensure the maximum allowable fuel oil sulfur content is not being exceeded. Such written documentation can include but is not limited to: Bill of Lading, Delivery Invoice, Certificate of Analysis, etc.</p> <p>[N.J.A.C 7:27-8.13(a)]</p>	<p>Recordkeeping once initially, and upon change of material or fuel supplier. The Permittee shall keep records of fuel oil sulfur content. All records shall be maintained on site for a minimum of 5 years and shall be made readily available upon the Department's request.</p> <p>[N.J.A.C.7:27-8.13(d)3]</p>	None
7.	<p><b><u>For Option A Only</u></b></p> <p>Compliance with the annual emission limit for each air contaminant shall be based on operation of the unit(s) at a maximum of 8760 hours per year for the size(s) registered.</p> <p>[N.J.A.C 7:27-8.13(a)]</p>	None	None	None

## FACILITY SPECIFIC REQUIREMENTS

Item No.	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
8.	<p><b><u>For Options B or C Only</u></b></p> <p>Compliance with the annual emission limit for each air contaminant shall be based on the annual fuel consumption. Permittee shall comply with a self-imposed fuel limit.</p> <p>[N.J.A.C 7:27-8.13]</p>	<p>Permittee shall install and operate fuel totalizer(s) to monitor the total amount of fuel burned each 12 consecutive month period, based on a rolling 1-month basis.</p> <p>[N.J.A.C 7:27-8.13(d)]</p>	<p>Each month the permittee shall record:</p> <ol style="list-style-type: none"> <li>1. Fuel type.</li> <li>2. Current reading from the fuel totalizer(s).</li> <li>3. Monthly fuel usage.</li> <li>4. Sum and record the current monthly fuel usage with the previous eleven (11) month fuel usage totals to determine the consecutive twelve (12) month total.</li> </ol> <p>Records shall be made readily accessible for the Department's inspection in either a logbook or computer data system for a minimum of 5 years.</p> <p>[N.J.A.C 7:27-8.13]</p>	<p>The permittee shall notify the Department of any non-compliance with their self-imposed fuel limit within 24 hours of discovery by calling the Environmental Action Hotline at (877) 927-6337.</p> <p>[N.J.A.C. 7:27-8.13(d)]</p>